In addition, Applicant respectfully suggests that because methods of pressing tablets and ascertaining bacterial viability are generally well known, one skilled in the art would be able to determine the optimum amount of pressing force required, given Applicant's disclosure, without undue experimentation. This may be accomplished by measuring the resulting viability of a formulation containing the ingredients disclosed in the present application after pressing a tablet with a known force. One skilled in the art would then know whether to increase or decrease the force based on that viability measurement. Persons of ordinary skill in this art appreciate that the force needed for any given formulation may vary depending upon the specific materials employed, the overall shape of the tablet to be formed and other factors. The Applicant emphasizes that a key element of the invention is to increase bacteria viability through the use of fructose oligosaccharides without sacrificing structural integrity of the resulting tablet, something neither disclosed nor suggested in the art.

As for the specific amount of bacteria, Applicant has amended claim 28 to further clarify that the claimed limitation of 0.5-50% by weight relates to the total bacteria weight.

35 U.S.C. § 103

The Examiner had rejected claims 11-28 in this application's parent under 35 U.S.C. § 103 as allegedly being unpatentable over Reference B in view of D, F, G, N and E.

The Examiner contends that one skilled in the art would have been motivated to substitute inulin for starch in the method of Reference B with a reasonable expectation of success in maintaining high viability in view of the teachings of References E, F and G.

Applicant asserts that none of the cited references when viewed in combination or individually would have motivated one skilled in the art to mix fructose oligosaccharides with a bacteria and press a tablet using the force to render a tablet with a high viability. Applicant emphasizes that a key element in the invention is the resulting high viability of the bacteria after pressing a tablet. It should be noted that not one of the cited references discloses the importance of pressure used to tabletize that maintains tablet integrity (friability) yet keeps up to about 60% of the microorganisms alive.

Reference B, U.S. Patent No. 4,396,631 is directed to *Bifidobacterium*-containing tablets and processes for preparing the same. The reference teaches the use of starch and freeze-dried bacteria pressed into a confectionery tablet. While various saccharides such as starch are enumerated (Column 2, lines 26-45), the reference is silent as to the use of inulin and other fructose oligosaccharides. The Examiner specifically cites Example 1 (Column 4, lines 40-66) in the previous Official Action dated June 6, 1999 as allegedly disclosing the present invention except for the use of a polysaccharide such as inulin. However, that is like saying that Example 1 teaches

everything but the invention, namely the ability to obtain a higher level of viability at reasonable compression forces by using a specific class of tabletizing material.

Reference B is therefore significantly different from the present invention. The Applicant further notes that the record does not discuss or explain how added ingredients, such as sugar/gelatin and water, and manipulations such as granulation, disclosed in Reference B effect the final tablet. Therefore, the method of Reference B is considerably distinct from the present invention and does not render the invention obvious.

Reference D, U.S. Patent No. 4,021,545 merely discloses a method of inhibiting the complement system by administering the poly (H-sulfate) salt of inulin in tablet form. No suggestion of mixing live bacteria with inulin in a tablet is made in the reference. Applicant asserts that the reference is not within the same field of endeavor as the present invention because it does not consider the viability of the bacteria with inulin in the compressed tablet form as presently claimed in the instant application. Nor does this reference overcome the deficiencies of Reference B.

Reference F, U.S. Patent No. 5,531,989 is directed to nutritional compositions containing *inter alia* bacteria and inulin. However, the reference contains no teaching or motivation to form a tablet. In fact, Reference F teaches away from compression by suggesting that the powder composition be dissolved in water before administrating or manufactured in liquid form. (Col. 13, lines 49-52). Most importantly,

Reference F has nothing to do with maintaining bacterial viability while pressing a tablet. It also does not overcome deficiencies of Reference B.

Reference G, U.S. Patent No. 5,518,740 relates to the preparation of freeze-dried yogurt products. The Examiner cites Example 1, Column 10 in Reference G as allegedly teaching a method of producing a shaped product containing bacteria and inulin characterized by having high viability. But Reference G is essentially directed to a process for making frozen yogurt bars. The ingredients used in the example cited are in liquid form and the Example is therefore completely inapplicable to the present invention as claimed. Examiner's attention is directed to Column 10, lines 33-39 where the reference teaches stirring the ingredients to dissolution.

In other words, the liquid ingredients, milk and yogurt, are used to dissolve the solid ingredients at +4°C, then cooled to -5°C before extruding into a frozen bar. (Col. 10, lines 40-46) Applicant asserts that the method of forming a liquid into a solid by freezing, etc., as described in Reference G requires entirely different processing steps than the pressing steps used to form a tablet as in the presently claimed invention. It does not describe the use of a fructose oligosaccharide or disclose the role such ingredients may have in maintaining the viability of bacteria in a tablet. It therefore does not address the deficiencies of Reference B.

Reference N, JP 56-135419 relates to TOS, (a specific non-fructose saccharide; Gal-$(Gal)_n$-Glc) mixed with a bacteria and

excipients and used as a treatment to ameliorate the effects of radiotherapy. An English translation of Reference N is attached. The Applicant notes that in the one tablet-forming process described, the granulated bacteria powder and saccharide is mixed with hydroxypropyl cellulose, and granulated. The granules were then mixed with stearate and tabletized. (English translation, pg.12)

Applicant asserts that Reference N must be withdrawn because it does not teach or motivate one skilled in the art to substitute TOS for fructose oligosaccharides as claimed in the present invention or even starch as described in Reference B.

Furthermore, Reference N does not consider the combination of bacteria and TOS to be critical. In fact, the reference teaches that the bacteria and TOS may be packaged separately. (English translation, pg. 10) Perhaps most importantly, the concept of bacteria viability being facilitated by saccharides is advocated by the PTO is only described as taking place in the gut. Nowhere in the reference is TOS or any other saccharide described as increasing viability in a tablet or any other dry-state package. Applicant emphasizes that the fructose oligosaccharides of the claimed invention facilitate viability in forming the tablet. References merely disclosing that certain saccharides sustain bacterial growth *in vivo*, such as Reference N, are simply not relevant or analogous.

Reference N, taken in its entirety, would not teach, suggest or motivate one skilled in the art to combine and press a tablet using inulin or other fructose oligosaccharide so as

to maintain bacteria viability. In view of the above, Applicant asserts Reference N must be withdrawn.

Reference E, U.S. Patent No. 5,422,346 relates to the preparation and metabolic use of a juice containing a cold water soluble polymorphic form of inulin. While Reference E does mention that inulin tablets may be formed, and that inulin promotes bacterial growth, etc., it does not teach or suggest any method of combining inulin with bacteria in a dry compressed form. Once again, the Applicant emphasizes that the benefits of the saccharide disclosed in Reference E refer to *in vivo* bacterial growth in the gut. It is food to sustain bacteria, not a medium to protect it during compression. No suggestion is made to utilize a saccharide to enhance bacterial viability in a compressed form. Such a compressed form is a key aspect of the present invention as claimed.

The reference made to aiding bacteria viability is only in the gut, where naturally, saccharide nutrients would facilitate the growth of active bacteria. (Column 18, lines 34-37) Such a teaching is not within the same field of endeavor as a high viability solid inulin/bacteria tablet as claimed in the present invention. It also does nothing to cure the deficiencies of Reference B.

In summary, Applicant asserts that the above-discussed references individually, do not teach or suggest any method of producing a compressed tablet containing fructose oligosaccharides and a live bacteria whereby high bacterial viability results after compression.

The combination of the references in question does not cover the deficiencies of the references individually. Indeed, the Patent Office has failed to establish a *prima facie* case of obviousness by failing to explain where within the teachings of the references, there exists a teaching, suggestion or motivation to combine the references as the Patent Office advocates.

The applicant also emphasizes that it is impermissible within the framework of 35 U.S.C. § 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. See *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443 (Fed. Cir. 1986).

Here, Reference B does not teach the use of fructose oligosaccharides and instead includes extraneous ingredients and manipulations to produce a tablet in the cited Example 1 thereof. As such, the reference cannot render the present invention obvious because no teaching or suggestion of inulin or fructose oligosaccharides is disclosed. References D, F, G, N and E, do nothing to clear up this deficiency. To be properly combined with Reference B, there must be a teaching or suggestion that inulin or fructose oligosaccharides can be substituted for the starch (disclosed in Reference B) to provide one skilled in the art with the method claimed in the present invention. There must also be a reason to make such a switch. As discussed above, none of References D, F, G, N or E

teach substituting inulin or fructose oligosaccharides for starch, to produce a tablet with high bacterial viability or otherwise.

Nothing in the secondary references teaches or suggests that the use of a fructose oligosaccharide will enable one to obtain a tablet containing at least about 60% viable bacteria content. At best, they suggest that fructose oligosaccharides will selectively support growth of bacteria in the gut, whether introduced with that bacteria or not. In fact, none of the references identify bacterial viability during tablet compression to be a problem. Thus, they provide no motivation to combine the references either.

Finally, since nothing in the references, alone or in combination, suggests that fructose oligosaccharides can sustain bacterial viability during tablet compression, or ever addressed this problem, the combination would unlikely yield the present invention.

Therefore, in view of the above reasons, Applicant asserts that the rejection based on obviousness was improper and thus requests that it be withdrawn.

Accordingly, Applicant submits that all of the claims in the present application are now in condition for allowance, and earnestly solicit an early Notice of Allowance in this matter.

Should the Examiner have any questions regarding this application, he or she is encouraged to contact the undersigned at (908) 654-5000. Furthermore, should any additional fees be

due and owing in this matter, the Examiner is hereby authorized to charge Deposit Account No. 12-1095 therefor.

Respectfully submitted,

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